

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111  
Serial Number: 09/726,629  
Filing Date: November 30, 2000  
Title: SOLDERLESS ELECTRONICS PACKAGING (As Amended)  
Assignee: Intel Corporation

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### IN THE CLAIMS

Please amend the claims as follows:

Claims 1-34 (Canceled)

35. (Currently Amended) An electronic package comprising:

a die;

a substrate; and

a compressible connector to couple the die to the substrate, wherein the connector includes

a flexible support formed of plastic, the support having a relatively uniform thickness, the support further having upper and lower sides, and

a plurality of electrically conductive, relatively non-compressible particles within the flexible support, wherein selected particles have a dimension equal to or exceeding the thickness of the flexible support, wherein the selected particles extend between the upper and lower sides, and wherein the selected particles have an irregular, non-cylindrical shape ~~elements formed of electrically conductive material, the elements being from the group consisting of wire wads, pins, blobs, lumps, particles, and crystals.~~

36. (Currently Amended) The electronic package recited in claim 35, wherein the selected ones of the plurality of electrically conductive particles ~~elements~~ are to couple lands on the die to corresponding lands on the substrate.

37. (Original) The electronic package recited in claim 36 and further comprising:

a compression element to maintain electrical contact between the lands on the die and the lands on the substrate.

38. (Original) The electronic package recited in claim 37, wherein the compression element is a lid comprising a member in contact with the die and a support coupled to the substrate.

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39. (Currently Amended) The electronic package recited in claim 35, wherein the particles are formed of material from the group consisting of silicon, glass, quartz, and diamond elements ~~comprise a compressible material.~~

Claims 40-41 (Canceled)

42. (Currently Amended) The electronic package recited in claim 35, wherein the particles elements comprise a coating of electrically conductive material.

43. (Currently Amended) The electronic package recited in claim 35, wherein the plurality of particles elements comprise material from the group consisting of aluminum, antimony, beryllium, bismuth, cadmium, carbon, chromium, copper, gold, indium, iron, lead, magnesium, manganese, molybdenum, nickel, palladium, platinum, silicon, silver, tin, titanium, tungsten, zinc, metal silicide, doped polysilicon, and plastic.

44. (Currently Amended) An electronic package comprising:  
an integrated circuit (IC) package;  
a substrate; and  
a compressible connector to couple the IC package to the substrate, wherein the connector includes  
a flexible support formed of plastic, the support having a relatively uniform thickness, the support further having upper and lower sides, and  
a plurality of electrically conductive, relatively non-compressible particles within the flexible support, wherein selected particles have a dimension equal to or exceeding the thickness of the flexible support, wherein the selected particles extend between the upper and lower sides, and wherein the selected particles have an irregular, non-cylindrical shape ~~elements formed of electrically conductive material, the elements being from the group consisting of wire wads, pins, blobs, lumps, particles, and crystals.~~

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45. (Currently Amended) The electronic package recited in claim 44, wherein the selected ones of the plurality of electrically conductive particles elements are to couple lands on the IC package to corresponding lands on the substrate.

46. (Original) The electronic package recited in claim 45 and further comprising: a compression element to maintain electrical contact between the lands on the IC package and the lands on the substrate.

47. (Original) The electronic package recited in claim 46, wherein the compression element is a lid comprising a member in contact with the IC package and a support coupled to the substrate.

48. (Currently Amended) The electronic package recited in claim 44, wherein the particles are formed of material from the group consisting of silicon, glass, quartz, and diamond elements ~~comprise a compressible material~~.

Claims 49-50 (Canceled)

51. (Currently Amended) The electronic package recited in claim 44, wherein the particles elements comprise a coating of electrically conductive material.

52. (Currently Amended) The electronic package recited in claim 44, wherein the plurality of particles elements comprise material from the group consisting of aluminum, antimony, beryllium, bismuth, cadmium, carbon, chromium, copper, gold, indium, iron, lead, magnesium, manganese, molybdenum, nickel, palladium, platinum, silicon, silver, tin, titanium, tungsten, zinc, metal silicide, doped polysilicon, and plastic.

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53. (Currently Amended) An electronic system comprising at least one electronic assembly comprising:

an integrated circuit (IC) package;

a substrate; and

a compressible connector to couple the IC package to the substrate, wherein the connector includes

a flexible support formed of plastic, the support having a relatively uniform thickness, the support further having upper and lower sides, and

a plurality of electrically conductive, relatively non-compressible particles within the flexible support, wherein selected particles have a dimension equal to or exceeding the thickness of the flexible support, wherein the selected particles extend between the upper and lower sides, and wherein the selected particles have an irregular, non-cylindrical shape ~~elements formed of electrically conductive material, the elements being from the group consisting of wire wads, pins, blobs, lumps, particles, and crystals.~~

54. (Currently Amended) The electronic system recited in claim 53, wherein the selected ones of the plurality of electrically conductive particles ~~elements~~ are to couple lands on the IC package to corresponding lands on the substrate.

55. (Original) The electronic system recited in claim 54, wherein the at least one electronic assembly further comprises a compression element to maintain electrical contact between the lands on the IC package and the lands on the substrate.

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56. (Currently Amended) A data processing system comprising:  
a bus coupling components in the data processing system;  
a display coupled to the bus;  
external memory coupled to the bus; and  
a processor coupled to the bus and including at least one electronic assembly that includes:

an integrated circuit (IC) package;

a substrate; and

a compressible connector to couple the IC package to the substrate, wherein the connector includes

a flexible support formed of plastic, the support having a relatively uniform thickness, the support further having upper and lower sides, and

a plurality of electrically conductive, relatively non-compressible particles within the flexible support, wherein selected particles have a dimension equal to or exceeding the thickness of the flexible support, wherein the selected particles extend between the upper and lower sides, and wherein the selected particles have an irregular, non-cylindrical shape ~~elements formed of electrically conductive material, the elements being from the group consisting of wire wads, pins, blobs, lumps, particles, and crystals.~~

57. (Currently Amended) The data processing system recited in claim 56, wherein the selected ones of the plurality of electrically conductive particles ~~elements~~ are to couple lands on the IC package to corresponding lands on the substrate.

58. (Original) The data processing system recited in claim 57, wherein the at least one electronic assembly further comprises a compression element to maintain electrical contact between the lands on the IC package and the lands on the substrate.

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59. (Currently Amended) An electronic package comprising:
- a die;
  - a substrate; and
  - a compressible connector to couple the die to the substrate, wherein the connector includes
    - a flexible insulating support having a relatively uniform thickness, the support further having upper and lower sides, and
    - a plurality of electrically conductive, relatively non-compressible particles within the flexible support, wherein selected particles have a dimension equal to or exceeding the thickness of the flexible support, wherein the selected particles extend between the upper and lower sides, and wherein the selected particles have an irregular, non-cylindrical shape wire wads.
60. (Currently Amended) The electronic package recited in claim 59, wherein the selected ones of the plurality of particles wire-wads are to couple lands on the die to corresponding lands on the substrate.
61. (Previously Presented) The electronic package recited in claim 60 and further comprising a compression element to maintain electrical contact between the lands on the die and the lands on the substrate.
62. (Previously Presented) The electronic package recited in claim 61, wherein the compression element is a lid comprising a member in contact with the die and a support coupled to the substrate.
63. (Currently Amended) The electronic package recited in claim 59, wherein the particles are formed of material from the group consisting of silicon, glass, quartz, and diamond elements ~~comprise a compressible material.~~

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64. (Previously Presented) The electronic package recited in claim 59, wherein the insulating support is formed of material from the group consisting of a plastic, a resin, and a polymer.

65. (Currently Amended) An electronic package comprising:

an integrated circuit (IC) package;

a substrate; and

a compressible connector to couple the IC package to the substrate, wherein the connector includes

a flexible insulating support having a relatively uniform thickness, the support further having upper and lower sides, and

a plurality of electrically conductive, relatively non-compressible particles within the flexible support, wherein selected particles have a dimension equal to or exceeding the thickness of the flexible support, wherein the selected particles extend between the upper and lower sides, and wherein the selected particles have an irregular, non-cylindrical shape wire wads.

66. (Currently Amended) The electronic package recited in claim 65, wherein the selected ones of the plurality of particles wire wads are to couple lands on the IC package to corresponding lands on the substrate.

67. (Previously Presented) The electronic package recited in claim 66 and further comprising a compression element to maintain electrical contact between the lands on the IC package and the lands on the substrate.

68. (Previously Presented) The electronic package recited in claim 65, wherein the insulating support is formed of material from the group consisting of a plastic, a resin, and a polymer.

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69. (Currently Amended) An electronic system comprising at least one electronic assembly comprising:

an integrated circuit (IC) package;

a substrate; and

a compressible connector to couple the IC package to the substrate, wherein the connector includes

a flexible insulating support having a relatively uniform thickness, the support further having upper and lower sides, and

a plurality of electrically conductive, relatively non-compressible particles within the flexible support, wherein selected particles have a dimension equal to or exceeding the thickness of the flexible support, wherein the selected particles extend between the upper and lower sides, and wherein the selected particles have an irregular, non-cylindrical shape wire wads.

70. (Currently Amended) The electronic system recited in claim 69, wherein the selected ones of the plurality of particles wire wads are to couple lands on the IC package to corresponding lands on the substrate.

71. (Previously Presented) The electronic package recited in claim 70 and further comprising a compression element to maintain electrical contact between the lands on the IC package and the lands on the substrate.

72. (Previously Presented) The electronic package recited in claim 69, wherein the insulating support is formed of material from the group consisting of a plastic, a resin, and a polymer.